**What is claimed is:**

1. An optical switch, comprising

a first micro-electro mechanical system (MEMS) device containing a first number of micro mirrors;

a second micro-electromechanical system (MEMS) device containing a second number of micro mirrors; and

a first imaging system optically coupled to said first MEMS device so as to produce an image of each of said micro mirrors of said first MEMS device on a corresponding micro mirror of said second MEMS device;

whereby at least one of said micro mirrors of said first MEMS device is grouped with at least one of said micro mirrors of said second MEMS device such that the angle of reflection from said at least one grouped micro mirror of said first MEMS device and the angle of reflection from said at least one grouped micro mirror of said second MEMS device combine to produce an overall effective angle for said group.

2. The invention as defined in claim 1 wherein said first number and said second number are the same.

3. The invention as defined in claim 1 further comprising a plurality of optical source coupled to supply input light to said first MEMS device.

4. The invention as defined in claim 1 further comprising a plurality of optical source coupled to supply input light to said first MEMS device, wherein at least one of said optical sources are one of the group consisting of an optical fiber, a laser. a light emitting diode, light source, and a planar wave guide.

5. The invention as defined in claim 1 further comprising a receiver coupled to receive output light from said second MEMS device.

6. The invention as defined in claim 1 further comprising a receiver coupled to receive output light from said second MEMS device, each of said receiver being one of the group consisting of an optical fiber, a photo detector, and a planar wave guide.

7. The invention as defined in claim 1 wherein said first imaging system reproduces an angle of reflection of the light from each of said micro mirrors of said first MEMS device

8. The invention as defined in claim 1 wherein said overall effective angle for said group is a sum of said angle of reflection from each of said micro mirrors of said group.

9. The invention as defined in claim 1 further comprising a field lens for receiving light reflected by said second MEMS device.

10. The invention as defined in claim 1 further comprising a field lens through which light passes prior to being incident onto said first MEMS device.

11. The invention as defined in claim 1 further comprising a mirror for receiving light reflected by said second MEMS device and reflecting said light back toward said second MEMS device.

12. The invention as defined in claim 11 wherein said mirror is of a type selected from the group of types consisting of: planar and curved.

13. The invention as defined in claim 1 wherein said first number of micro mirrors and said second number of micro mirrors are the same.

14. The invention as defined in claim 1 wherein said first number of micro mirrors and said second number of micro mirrors are different.

15. The invention as defined in claim 1 wherein the size of said micro mirrors of said first device is the same as the size of said micro mirrors of said second device.

16. The invention as defined in claim 1 wherein the size of said micro mirrors of said first device is the same different than the size of said micro mirrors of said second device.

17. The invention as defined in claim 1 wherein said imaging system is a telecentric system.

18. The invention as defined in claim 1 further comprising

a third micro-electromechanical system (MEMS) device containing a third number of micro mirrors;

a fourth micro-electromechanical system (MEMS) device containing a fourth number of micro mirrors; and

a second imaging system optically coupled to said third MEMS device so as to produce an image of each of said micro mirrors of said third MEMS device on a corresponding micro mirror of said fourth MEMS device;

whereby at least one of said micro mirrors of said third MEMS device is grouped with at least one of said micro mirrors of said fourth MEMS device such that the angle of reflection from said at least one grouped micro mirror of said third MEMS device and the angle of reflection from said at least one grouped micro mirror of said fourth MEMS device combine to produce an overall effective angle for said group of micro mirrors of said third and fourth MEMS devices.

19. The invention as defined in claim 1 further comprising:

a third micro-electromechanical system (MEMS) device containing a third number of micro mirrors;

and wherein light reflected by said micro mirrors of said third MEMS device is coupled to said first MEMS device.

20. The invention as defined in claim 1 further comprising:

a third micro-electromechanical system (MEMS) device containing a third number of micro mirrors;

and wherein light reflected by said micro mirrors of said second MEMS device is coupled to said third MEMS device.

21. The invention as defined in claim 1 wherein said micro mirrors of said first MEMS device are adapted to tilt substantially only around a first tilt axis and said micro mirrors of said second MEMS device are adapted to tilt substantially only around a second tilt axis that is substantially orthogonal to said first tilt axis.

22. The invention as defined in claim 1 wherein said first MEMS device is arranged to act as a booster.

23. The invention as defined in claim 1 wherein each of said grouped micro mirrors effectively contribute different angles to said overall effective angle for said group.

24. The invention as defined in claim 1 wherein one of each of said grouped micro mirrors effectuates coarse tilt and the other effectuates fine control.

25. The invention as defined in claim 1 wherein said micro mirrors of one of said first and second MEMS devices is arranged so that they can be only flat or maximally tilted in at least on direction around at least one tilt axis.

26. The invention as defined in claim 1 wherein said micro mirrors of one of said first and second MEMS devices is arranged so that they can be only maximally tilted in at least on direction around at least one tilt axis.

27. A method for operating an optical switch including a first micro-electromechanical system (MEMS) device containing a first number of micro mirrors, a second micro-electromechanical system (MEMS) device containing a second number of micro mirrors, the method comprising the step of:

imaging said first optical MEMS device onto said second optical MEMS device so that the angle of reflection from at least one micro mirror of said first optical MEMS device and the angle of reflection from at least one micro mirror of said second MEMS device combine to produce an overall effective angle when considering said least one micro mirror of said first optical MEMS device and said at least one micro mirror of said second MEMS device as a group.

28. The invention as defined in claim 27 further comprising the step of passing light from said second optical MEMS device through a field lens.

29. The invention as defined in claim 27 further comprising the step of receiving light from a field lens at said first optical MEMS device.

30. The invention as defined in claim 27 further comprising the step of coupling light passed from a fiber at said first optical MEMS device.

31. The invention as defined in claim 27 further comprising the step of coupling light from said second optical MEMS device to a fiber.

32. An optical switch, comprising

a first micro reflective means mounted on a first micro-electromechanical system (MEMS) means;

a second micro reflective means mounted on a second micro-electromechanical system (MEMS) means;

a first imaging means optically arranged to produce an image of said first micro reflective means at said second micro reflective means such that the angle of reflection of said first micro reflective means and the angle of reflection from said second micro reflective means combine to produce an overall effective reflective angled.